

I. Simplify:

1) $\frac{21x^4y^3}{-7x^5y^2}$	2) $\frac{2x^2 - 6x - 36}{x^2 - 36}$	3) $\frac{6x^2 - 7x + 2}{6x^2 + 5x - 6}$
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II. Multiply or Divide the rational expressions. Make sure your answer is in simplified form:

4) $\frac{7ax^3}{8by^2} \cdot \frac{4by}{14ax^4} \div \frac{y^3}{12x^4} =$
5) $\frac{x^2 - 5x - 14}{x^2 + 5x + 6} \div \frac{x^2 - 49}{5x + 15} =$

III. Add or Subtract the rational expressions. Make sure your answer is in simplified form:

6) $\frac{5x + 2}{xy^2} - \frac{2x - 4}{4xy} =$

$$7) \frac{-x}{x^2 - 2x - 3} + \frac{2x}{2x^2 - 2} =$$

IV. Complete the given operations with the rational expressions. Make sure your answer is in simplified form.

$$8) \left(\frac{3y}{y^2 - 25} - \frac{8}{y - 5} \right) \div \left(\frac{y + 8}{y - 5} \right) =$$

V. Simplify the complex rational expressions. Make sure your answer is in simplified form.

$$9) \frac{\frac{2}{x^2 - 9}}{\frac{4}{x^2 + 6x + 9}} =$$

$$10) \frac{\frac{4}{2xy} + \frac{1}{3y^2}}{\frac{2}{xy} + \frac{2}{6y^2}} =$$

VI. Solve and Check.

$$11) \frac{29}{6} - \frac{6}{y} = \frac{17}{3y}$$

$$12) \frac{5}{8a} - \frac{11}{8} = \frac{13}{a}$$

$$13) \frac{5-10x}{-4} = \frac{8x-12}{5}$$

$$14) \frac{x}{x+2} - \frac{8}{x^2-4} = \frac{2}{x-2}$$